

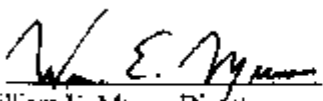
**FIVE-YEAR REVIEW REPORT**

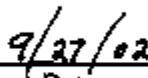
**TOMAH FAIRGROUNDS LANDFILL SITE**

**CITY OF TOMAH MONROE COUNTY  
WISCONSIN**

**September 2002**

**Prepared by:  
United States Environmental Protection Agency  
Region 5  
Chicago, Illinois**

  
\_\_\_\_\_  
William E. Muno, Director  
Superfund Division, Region 5

  
\_\_\_\_\_  
Date

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## **List of Acronyms**

ARAR	Applicable or Relevant and Appropriate Requirement
CERCLA	Comprehensive Environmental Response, Compensation, and Liability Act
EPA	United States Environmental Protection Agency
CFR	Code of Federal Regulations
ESD	Explanation of Significant Difference
ICs	Institutional Controls
MCL	Maximum Contaminant Level
MCLG	Maximum Contaminant Level Goal
NCP	National Contingency Plan
NPL	National Priorities List
O&M	Operation and Maintenance
PCB	Polychlorinated Biphenyl
PPB	Parts per Billion
PRP	Potentially Responsible Party
RA	Remedial Action
RAO	Remedial Action Objective
RD	Remedial Design
RI/FS	Remedial Investigation/Feasibility Study
ROD	Record of Decision
VOC	Volatile Organic Compound
WDNR	Wisconsin Department Natural Resources

FIVE-YEAR REVIEW REPORT  
EXECUTIVE SUMMARY  
September 2002

TOMAH FAIRGROUNDS LANDFILL SITE

Monroe County  
Wisconsin

The completion of the five-year review confirms that the Tomah Fairgrounds Site (the Site) located in Tomah, Monroe County, Wisconsin remains protective of human health and the environment. The remedy selected in the 1996 Record of Decision (ROD) for the Site has been implemented under a 1996 Consent Decree entered with the City of Tomah, and Wisconsin Department of Natural Resources (WDNR). This is the first five-year review for the Site.

The remedy for the Site is No Action. However, the remedy also includes WDNR oversight of the 1996 Consent Decree to monitor groundwater and maintain institutional controls. The Site achieved construction completion with the signing of the Final Close Out Report in February 2001.

The assessment of this five-year review found that the remedy was implemented in accordance with the requirements of the ROD.

The remedy is functioning as designed. The immediate threats have been addressed and the remedy remains protective of human health and the environment in the short-term. There are no current exposure pathways.

Long-term protectiveness of the ground water has been achieved and will remain protective by maintaining institutional controls. The Site was delisted from the National Priority List (NPL) in August 2001. Delisting was based on data that verified that Wisconsin ground water standards had been met. Hazardous waste remains in place, therefore, the United States Environmental Protection Agency (U.S. EPA) is required to conduct the next Five-Year Review by September 2007.

# Five-Year Review Summary Form

SITE IDENTIFICATION		
Site name (from WasteLAN): Tomah Fairgrounds Landfill		
EPA ID (from WasteLAN): WI980616841		
Region: 5	State: WI	City/County: Tomah / Monroe County
SITE STATUS		
NPL status: <input type="checkbox"/> Final <input checked="" type="checkbox"/> Deleted <input type="checkbox"/> Other (specify)		
Remediation status (choose all that apply) : <input type="checkbox"/> Under Construction <input type="checkbox"/> Operating <input checked="" type="checkbox"/> Complete		
Multiple OUs?* <input type="checkbox"/> YES <input checked="" type="checkbox"/> NO	Construction completion date: <u>2</u> / <u>13</u> / <u>2001</u>	
Has site been put into reuse? <input type="checkbox"/> YES <input checked="" type="checkbox"/> NO		
REVIEW STATUS		
Lead agency: <input type="checkbox"/> EPA <input checked="" type="checkbox"/> State <input type="checkbox"/> Tribe <input type="checkbox"/> Other Federal Agency _____		
Author name: David Linnear		
Author title: Remedial Project Manager	Author affiliation: U.S. EPA, Region 5	
Review period:** <u>7</u> / <u>22</u> / <u>2002</u> to <u>9</u> / <u>30</u> / <u>2002</u>		
Date(s) of site inspection: <u>8</u> / <u>15</u> / <u>2002</u>		
Type of review: <div><input checked="" type="checkbox"/> Post-SARA   <input type="checkbox"/> Pre-SARA   <input type="checkbox"/> NPL-Removal only <input type="checkbox"/> Non-NPL Remedial Action Site   <input type="checkbox"/> NPL State/Tribe-lead <input type="checkbox"/> Regional Discretion)</div>		
Review number: <input checked="" type="checkbox"/> 1 (first) <input type="checkbox"/> 2 (second) <input type="checkbox"/> 3 (third) <input type="checkbox"/> Other (specify)		
Triggering action: <div><input type="checkbox"/> Actual RA On-site Construction at OU # ____   <input type="checkbox"/> Actual RA Start at OU# <u>NA</u> <input type="checkbox"/> Construction Completion   <input type="checkbox"/> Previous Five-Year Review Report <input checked="" type="checkbox"/> Other (specify) First Round of GW Monitoring after No Action ROD</div>		
Triggering action date (from WasteLAN): <u>7</u> / <u>01</u> / <u>1997</u> First Round of Groundwater Monitoring after ROD		
Due date (five years after triggering action date): <u>9</u> / <u>29</u> / <u>2002</u>		

\* ["OU" refers to operable unit.]

\*\* [Review period should correspond to the actual start and end dates of the Five-Year Review in WasteLAN.]

## **Five-Year Review Summary Form, cont'd.**

### **Issue:**

1) Waste remains in place at the Site and the NCP requires U.S. EPA to conduct Five-Year Reviews.

### **Recommendations and Follow-up Actions:**

- 1 ) Conduct second Five-Year review in September 2007.
- 2) Review data gathering component for next Five-Year review with the City of Tomah.

### **Protectiveness Statement(s):**

The remedy is protective of human health and the environment in the short-term. There are no current exposure pathways and the remedy appears to be functioning as designed. Continued elimination of the source of contamination is achieving the remedial objectives to minimize the migration of contaminants to groundwater.

### **Long-term Protectiveness:**

Long-term protectiveness of the groundwater has been achieved because Wisconsin NR 140 clean-up standard for Vinyl Chloride (VC) has been met (0.20 ug/l) and will remain protective by maintaining institutional controls.

### **Other Comments:**

None.

U. S. Environmental Protection Agency  
Region 5  
Five Year Review  
Tomah Fairgrounds Landfill Site  
Tomah, Monroe County, Wisconsin  
September 2002

## **I. Introduction**

The United States Environmental Protection Agency (U.S. EPA) Region 5 is conducting a Five-year review of the remedial actions implemented at the Tomah Fairgrounds Landfill Site (the Site) in Tomah, Monroe County, Wisconsin. The review was conducted between May 2002 and September 2002. This report documents the results of the five-year review. The purpose of five-year reviews is to determine whether the remedy at a site is protective of human health and the environment. The methods, finding, and conclusions of the review are documented in the five-year review report. In addition, five-year review reports identify issues found during the review, if any, and make recommendation to address them.

This review is required by statute. U. S. EPA must implement five-year reviews consistent with the Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA) and the National Oil and Hazardous Substances Pollution Contingency Plan (NCP). CERCLA 121(c), as amended, which states:

If a remedial action is selected that results in any hazardous substances, pollutants, or contaminants remaining at the site, the remedial action shall be reviewed no less often than every five years after the initiation of such remedial action to assure that human health and the environment are being protected by the remedial action being implemented.

The NCP part 300.430(f)(4(ii)) of the Code of Federal Regulations (CFR) states:

If a remedial action is selected that results in hazardous substances, pollutants, or contaminants remaining at the site above levels that allow for unlimited use and unrestricted exposure, the lead agency shall review such action no less often than every five years after the initiation of the selected remedial action.

This is the first five-year review for the Site. Due to the fact that hazardous substances, pollutants, or contaminants remain at the Site, this five-year review is required.

## **II. Site Chronology**

Table 1 lists a chronology of events for the Site.



**Table 1 - Site Chronology**

Event	Date
Initial Discovery of Problem	1984
Listed on National Priority List	1987
Remedial Investigation/Feasibility Study	1993
ROD Signature	1996
Site Visit / Inspection	2000
Close Out Report	2001
NPL Delisting	2001
First Five-Year Review	2002

### **III. Background**

#### **Physical Characteristics**

The Site covers approximately 15 acres within the boundaries of a 37.5 acre fairgrounds located in Tomah, Monroe County, Wisconsin (see Figures 1 and 2). The Site is situated at the south edge of town and is a grass covered open field.

#### **Land & Resource Use**

Land use to the south and west is agricultural, to the east, commercial and to the north, residential. The Site is used as a parking lot during fairground events.

#### **History of Contamination**

The Site was used and operated by the City of Tomah as a disposal facility from 1955 until 1960. Waste disposal methods consisted of excavating 6 to 8 feet of surface soil, landfilling waste materials, placing a cover consisting of previously excavated topsoil and final grading. Some material disposed of in the landfill may have been burned before it was buried. No disposal records regarding the types or quantities of material buried were maintained.

Between 1984 and 2000, the Site was sampled on a number of occasions. In 1984, the US EPA and WDNR performed a preliminary assessment. In 1991 and 1992 groundwater samples from residential wells around the landfill were collected. In 1993, the first phase of the Remedial Investigation (RI) began and was finalized in 1996. Based on analytical results presented in the RI, it was determined that a Feasibility Study (FS) was not necessary. Also based on information

presented in the RI such as associated risks to human health and the environment and the consideration of state soil standards, US EPA concluded that the remediation of soil was not warranted under current or anticipated future land use scenarios.

In 1996, the Record of Decision (ROD) concluded 'No Further Action' was appropriate due to properly implemented deed restrictions limiting land use and an agreement between the WDNR and the City of Tomah implementing monitored natural attenuation of groundwater. A groundwater investigation was completed by the WDNR and City of Tomah in 2000.

### **Initial Response**

The US EPA, WDNR and United States Geological Survey (USGS) collected groundwater and subsurface soil samples. Sampling indicated contaminants within the landfill boundary were present. Primary contaminants of concern in groundwater were lead, vinyl chloride and cis-1,2-dichloroethene (cis-1,2 DCE). Upgradient residential wells showed no effects of contamination. Further field investigations for surface soils indicated the presence of contamination. In particular, heavy metals, including cadmium, chromium, lead, mercury, and selenium were found.

### **Basis for Taking Action**

The decision for "no further action" was based on the analysis of Site risks. The decision relies on legal assurances that contaminated land will not be used in a way that could pose significant risks, and that groundwater monitoring will continue until it is clear that groundwater contamination has attenuated.

## **IV. Remedial Actions**

### **Remedial Selection**

In November 1996, the WDNR and the City of Tomah entered into a Consent Order whereby the City of Tomah agreed to do long-term groundwater monitoring for volatile organic compounds. This monitoring included: annual and semi-annual sampling of monitoring wells, and routine (every 5 years) monitoring of the nearby private wells.

A ROD was signed in September 1996 selecting the following remedy:

1. Institutional controls remain in place, to the extent possible, deed and access restrictions and deed notices or advisories for locations with contaminated groundwater;
2. Long term groundwater monitoring; and
3. No Further Action

## **Remedial Implementation**

### **Deed Restrictions**

The objective of the institutional control element of the response action was to place sufficient deed and access restrictions to ensure that: 1 ) the integrity of the soil cover is not compromised; and 2) no construction, particularly of drinking water wells, will occur on-Site which may increase the likelihood of exposure to remaining contaminants. In addition, deed and access restrictions were filed with the Monroe County Recorder of Deeds in Wisconsin.

## **Operations and Maintenance (O&M)**

Groundwater data gathered in August 2000 confirmed groundwater on-Site and downgradient of the Site no longer poses a threat to public health and the environment for the present classification assigned to this Site. The Wisconsin NR 140 Vinyl Chloride (primary contaminant of concern) groundwater standards is 0.20 ug/l. Further groundwater monitoring or maintenance may not be required as groundwater clean-up standards have been met.

## **V. Progress Since the Last Five-Year Review**

This is the first five-year review for the Site.

## **VI. Five Year Review Process**

This five-year review report was prepared by David Linnear, U.S. EPA Remedial Project Manager. This five-year review consisted of a Site inspection and review of relevant documents, including O & M records. The final report will be available in the Site information repository for public view.

Community involvement and relations ongoing at the Site include responding to local resident concerns over the progress of the operation and maintenance of the remedy and conducting visits to affected community members when issues and/or concerns arise. Public notices are scheduled to inform the community of significant events and progress at the Site.

Notification will be made to the public of this Five-Year Review's findings and will allow further comments. In addition, the notification will inform the public where the completed Five-Year Review Report can be located.

## **VII. Five Year Review Findings**

### **A. Site Inspections**

An inspections of the Site was conducted on August 15, 2002 by the U.S. EPA. The purpose of the inspection was to assess the protectiveness of the remedy and verify institutional controls.

No significant issues were identified during the inspection at any time regarding the groundwater nor issues related to institutional controls. Institutional controls in place were implemented and no activities were observed that would have violated the institutional controls.

## **B. Risk Information Review**

Review of the Site related documents demonstrates that the remedy remains protective of human health and the environment. The purpose of the review is two-fold: (1) to confirm that the remedy as spelled out in the ROD and/or remedial design remains effective at protecting human health and the environment (e.g., the remedy is operating and functioning as designed, institutional controls are in place and are protective), and (2) to evaluate whether original clean-up levels remain protective of human health and the environment. Applicable or relevant and appropriate requirements (ARARs) and To Be Considered (TBC) regulations are key elements in fulfilling these two purposes.

## **C. Data Review**

Groundwater monitoring has been performed at the Site to determine the trend of groundwater contaminants at the Site (see below). Groundwater on-Site and downgradient of the Site do not pose a threat. Vinyl Chloride is at or below the State clean-up standard (0.20 ug/l) in the groundwater.

### **MONITORING WELL RESULTS FOR VINYL CHLORIDE (only compound detected above standards) All results in ug/l**

DATE	MW1	MW2	MW3	MW4S	MW4D
8/18/95	<0.50	<0.50	<0.50	<0.50	6.0
9/20/95	<0.50	<0.50	<0.50	<0.50	9.0
1/09/97	--	--	--	--	0.90
7/01/97	<0.20	<0.20	<0.20	<0.20	0.32
12/31/97	--	--	--	--	<0.23
6/24/98	<0.20	<0.20	<0.20	<0.20	<0.20
12/14/98	--	--	--	--	<0.20
6/04/99	<0.20	<0.20	<0.20	<0.20	<0.20
12/21/99	--	--	--	--	<0.20
6/29/00	<0.19	--	--	<0.19	<0.19
8/2/00		<0.19	<0.19	--	--

**PRIVATE WELL RESULTS FOR VINYL CHLORIDE (ug/l)  
(only compound detected above standards)**

DATE	DANA	RANDALL	SAMPSON	SCHAPPE
8/19/91	<1.00	<1.00	<1.00	--
2/10/92	<0.50	<0.50	--	<0.50
7/12/93	<1.00	<1.00	<1.00	--
6/29/00	<0.12	<0.12	--	<0.12
8/15/00	--	--	<0.15	--

## **VIII. Technical Assessment**

The following questions address the issue of protection of human health and the environment by the remedy at the Site.

### **Question A: Is the remedy functioning as intended by the decision document?**

The review of Site related documents, risk assumptions, and the results of the Site inspection indicates that the remedy is functioning as intended by the ROD. The remedy has achieved the remedial objectives to minimize the migration of contaminants to groundwater and prevent direct contact with, or ingestion of, contaminants in soil.

### **Question B: Are the exposure assumptions, toxicity data, cleanup levels, and remedial action objectives (RAOs) used at the time of the remedy selection still valid?**

**Changes in Standards and To Be Considered:** Neither federal MCLs nor State ground water standards for Site related contaminants have changed since the ROD. All other regulations at the Site remain unchanged.

**Changes in Exposure Pathways:** There have been no new exposure pathways discovered at the Site.

**Changes in Toxicity and Other Contaminant Characteristics:** There have been no changes to toxicity and other factors for contaminants of concern at the Site.

**Changes in Risk Assessment Methodologies:** There have been no additions or changes in risk assessment methodologies used at the Site since the ROD which affect the protectiveness of the remedy.

### **Question C: Has any other information come to light that could call into question the protectiveness of the remedy?**

There have been no changes in the physical conditions of the Site that would affect the protectiveness of the remedy and no other events have affected the protectiveness of the remedy. There is no other information that calls into question the protectiveness of the remedy.

## Technical Assessment Summary

According to data reviewed and the Site inspection, the remedy is functioning as intended by the ROD. There have been no changes in the physical conditions of the Site that would affect the protectiveness of the remedy. Clean-up standards for ground water contamination cited in the ROD have been met.

### IX. Issues

Waste remains in place at the Site and in accordance with the NCP, U.S. EPA is required to conduct Five-Year Reviews of the Site. In addition, the City of Tomah may need to continue with evaluations of the groundwater every five years.

### X. Recommendations and Follow-Up Actions

**Table 3 - Recommendations and Follow-Up Actions**

<b>Issue</b>	<b>Recommendations/ Follow-up Actions</b>	<b>Party Responsible</b>	<b>Oversight Agency</b>	<b>Milestone</b>	<b>Affects Current/ Future Protectiveness? (Y/N)</b>
Continue evaluating ground-water	Continue to monitor for exceedances;	City of Tomah	State/EPA	Spring 2007	N /N
Continue monitoring plume movement	Continue to monitor for exceedances;	City of Tomah	State/EPA	Spring 2007	N /N
Continue O&M.	Continue to monitor effectiveness of systems and ICs	City of Tomah	State/EPA	Spring 2007	N /N

### XI. Protectiveness Statement

The remedy is protective of human health and the environment. The exposure pathways that could result in unacceptable risks are being controlled and institutional controls are preventing exposure to, or the ingestion of, contaminated ground water and soil. All threats at the Site have been addressed through implementation of institutional controls. Current data indicate that the plume remains on Site and the remedy is functioning as required.

## **XII. Next Review**

The next five-year review for the Site is required by September 2007. Because no additional groundwater monitoring may be required, Institutional Controls may be the only item that will need to be verified in the next review.

## FIGURES



# Tomah Fairgrounds Superfund Site Monroe County, Wisconsin

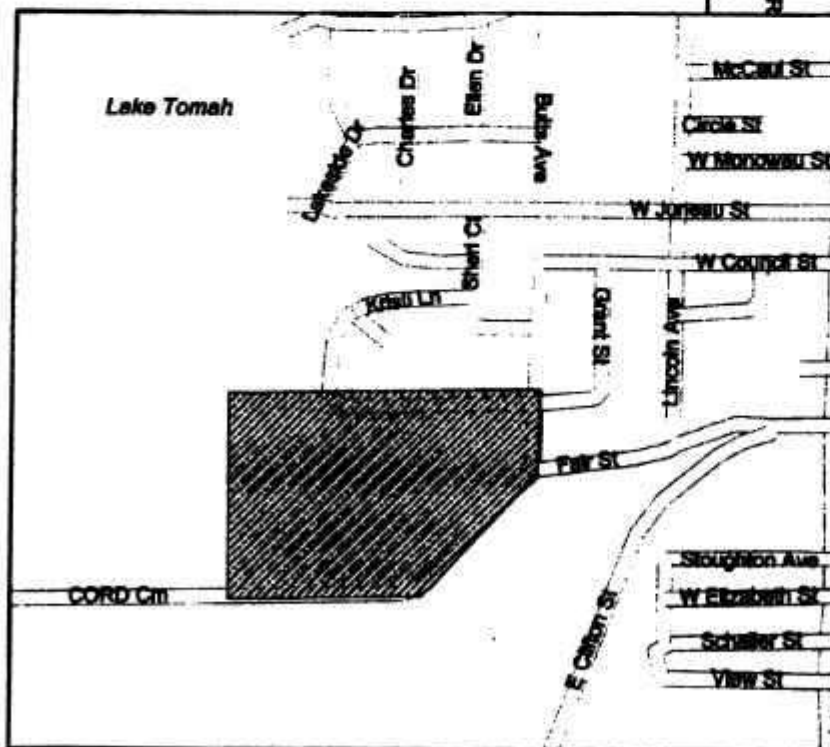
## 1) State



## 2) City of Tomah



## 3) Tomah Fairgrounds Superfund Site

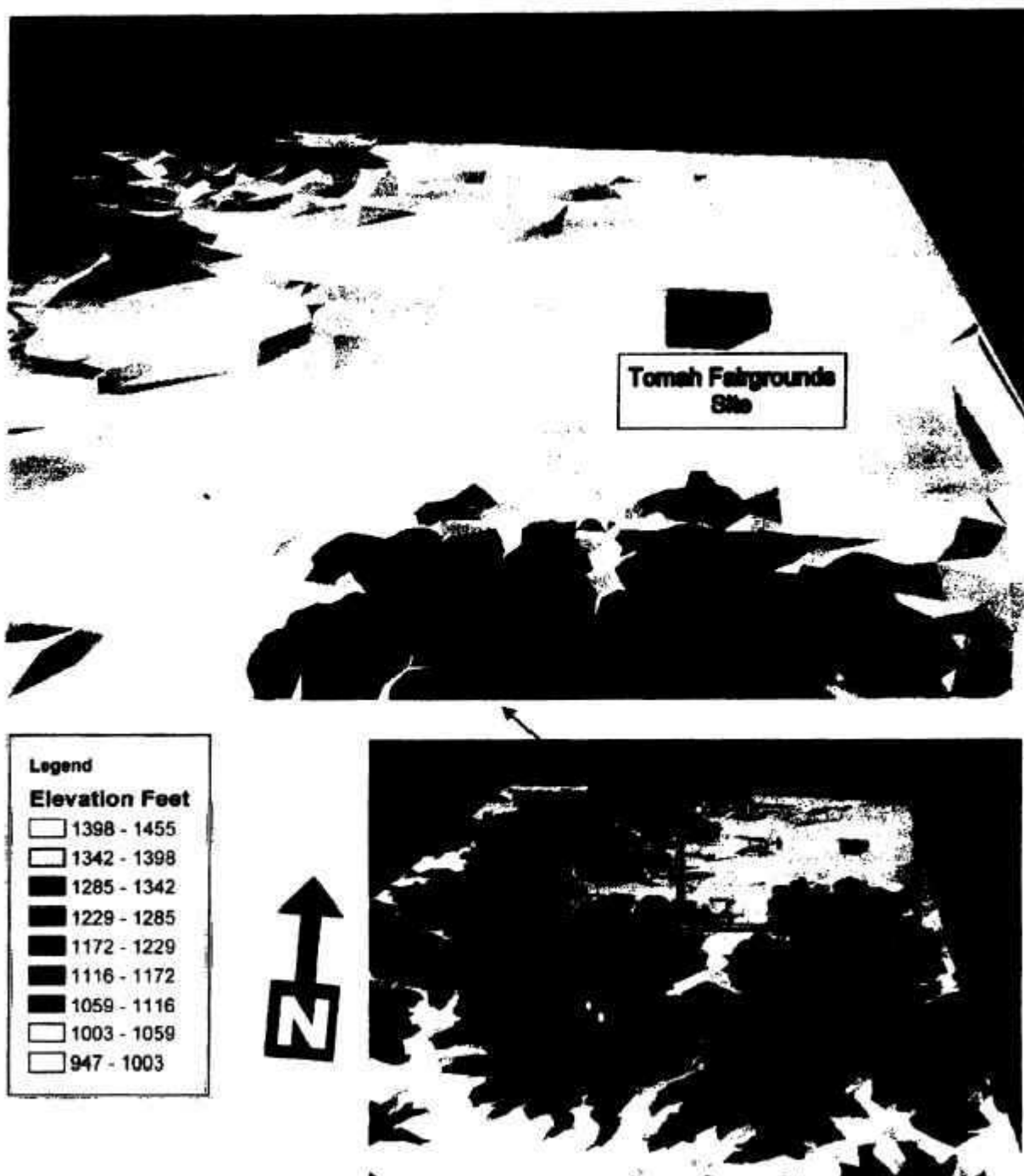


Plot created by David Wilson U.S. EPA Region 5/10/2002

**Figure 1**

SEPA

# Tomah Fairgrounds Superfund Site 3D Surface Terrain Model



Plot created by David Wilson U.S. EPA Region 8 on 04/08/02

EPA

Region 8

**Figure 2**